

REMARKS

Claims 1-6 and 8-19 are pending in this application. Claims 1 and 8 have been amended to define still more clearly what Applicants regard as their invention. Claim 1 is in independent form. Applicants respectfully request favorable reconsideration.

The Continuation Sheet attached to the Advisory Action dated October 18, 2004, states that “although claims 2-[9 and 16] were indicated as allowable by the Examiner, and claim 1 was placed in independent form, the amended claim does not reflect the limitations from all of the base claims.”

Applicants submit that amended independent Claim 1, together with the remaining claims dependent thereon, are patentably distinct from the proposed combination of U.S. Patent No. 5,482,381 (Fujimoto) in view of U.S. Patent No. 6,118,570 (Kanai et al.) and further in view of U.S. Patent No. 4,993,792 (Minoura) at least for the following reasons.¹

The aspect of the present invention set forth in Claim 1 is a color image reading apparatus. The apparatus includes a light-receiving means formed by a plurality of line sensors, an imaging means for providing a light beam from an object to the light-receiving means, and a color-separation means, inserted in a first optical path between the imaging means and the light-receiving means, for color-separating the light beam into a plurality of color light beams. The apparatus also includes a first optical means having a power in a sub-scanning direction, inserted in a second optical path between the object and the imaging means, for temporarily imaging the light beam from the object in the sub-

^{1/} This is the prior art rejection that was made in the Office Action dated April 21, 2004.

scanning direction in the second optical path, and a slit disposed between the first optical means and the imaging means in the second optical path, at a position where the first optical means temporarily images the light beam from the object in the sub-scanning direction.

An apparatus having the features recited in Claim 1 prevents crosstalk of color information on an original surface. The crosstalk of color information on an original surface causes a mixing problem, as illustrated in Fig. 5, that is, when a light beam (represented as a dotted line) coming from point B on the original surface 51 and another light beam (represented as solid line) coming from point A in the vicinity of the point B are mixed with each other on the light receiving surface 59. (See, e.g., the specification at page 7, lines 6-25.) Though a slit 56 may be provided near the original surface 51, as illustrated in Figs. 3 and 4, in order to prevent the crosstalk, such construction requires high precision adjustment. On the other hand, the apparatus having the features recited in Claim 1 prevents crosstalk, without making any precise adjustments, because the slit is disposed between the first optical means and the imaging means in the second optical path, at a position where the first optical means temporarily images the light beam from the object in the sub-scanning direction. (See, e.g., the specification from page 36, line 23, through page 37, line 15.)

In Fujimoto '381, a light beam coming from an original surface is not imaged in the sub-scanning direction and therefore the above problem (precise adjustment between the original 1 and the slit 104 being required) occurs. See Fig. 1B of Fujimoto. Fujimoto does not recognize the problem of crosstalk, thus it clearly does not provide any teachings or suggestions to overcome it.

Applicants submit that neither Kanai et al. '570 nor Minoura '792 discloses an image reading apparatus, but they disclose a scanning optical apparatus. The above problem inherently accompanies an image reading apparatus, not a scanning optical apparatus. Therefore, neither Kanai nor Minoura even recognize the problem of crosstalk, and therefore, similar to Fujimoto, clearly do not provide any teachings or suggestions to overcome it.

In Fig.1 of Kanai et al. '570, the cylindrical lens 3b has a power in the sub-scanning direction for imaging laser beams temporarily on the polygonal mirror 6, but it is used to eliminate a shift of the imaging position of the laser beams on the photosensitive drum 30 due to a difference in tilt angle of each deflecting surface of the polygonal mirror. See Fig. 4 of Kanai for details. Thus, the cylindrical lens 3b of Kanai is used for different purposes. Further, Applicants submit that nothing has been found in Kanai that would teach or suggest that a slit is disposed between the first optical means and the imaging means in the second optical path, at a position where the first optical means temporarily images the light beam from the object in the sub-scanning direction, as recited in Claim 1.

In Fig. 1 of Minoura '792, a slit 9 is provided to intercept a ghost image Pg from the medium 6 as stated in column 1, lines 33-37. Thus, the slit 9 is used for different purposes. The light beam Lc is not imaged at the slit 9, but it is provided at a position where the light beam from the object is temporarily imaged.

Accordingly, at least for the reasons provided above, Applicants submit that Claim 1 is patentable over the prior art, when taken separately or in any proper combination.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

Peter G. Thurlow.

Peter G. Thurlow
Attorney for Applicants
Registration No.: 47,138

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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